CHAPTER 4 - PRIVATE STREET AND DRIVEWAY STANDARDS

1. ACCESS AND CIRCULATION

All commercial, industrial, and multi-unit residential driveways shall conform with the following:

A. All driveways shall be designed and constructed so as to preclude the necessity for vehicles entering the driveway to maneuver, or stack within the traveled way or to use the traveled way as a circulation element.

B. All driveways having an ADT greater than 40, or more than four (4) units, shall provide an approved turn-around or internal circulation to preclude vehicles backing onto a public or private street. Perpendicular or diagonal parking shall be discouraged on a high use driveway (see definition in Section 8) or the private street that it serves.

C. Unless approved deceleration lanes are provided, all driveways except residential, shall have a queuing area for in-bound traffic located off the traveled way that serves the driveway. The queuing area shall be no less than 10 feet wide by 20 feet long. Driveway queuing areas shall be provided at the rate of one per 1000 ADT or any fraction thereof (i.e., 3500 ADT = 80'). Queuing depth shall be measured from face of curb.

D. No parking spaces, intersections or other decision points shall be located in or served by a driveway queuing area.

E. Driveway spacing shall conform to the following:

1) No driveway will be allowed onto prime or major arterial streets unless no other access is available to the lot(s) being served. If no other access is available, a right in/out only driveway will be allowed. In this case, high use driveways must be designed with deceleration lanes. For medium and high use driveways, the right in/out driveway must be located at a point no less than one-half the required intersection spacing from any other intersection or other medium or high use driveway. Properties located such that the preceding spacing requirements cannot be met shall obtain access to the public street system via the following methods in descending order of preference:

a) Via an extension of a public street through adjacent properties. This method is preferred only when said extension is a logical addition to the public street system and meets City Design Criteria.

b) Via a private road with a non-revocable easement granted to the property being served.

c) Via a driveway on the subject property that, while otherwise not meeting the requirements of this policy, is located optimally to reduce side friction and traffic hazards on the arterial street. *Medium and high use driveways so allowed shall be made available to adjacent properties through non-exclusive easement or by dedication of a frontage road connecting the driveway and the adjacent properties.

2) *Low use driveway - shall be located per Public Street Design Criteria.

3) Joint use driveways shall be used wherever feasible. The burden of showing joint use driveways to be infeasible is the developer's. The developer must show the joint driveway to be physically impossible or that the adjacent-owner has rejected, in writing, a bonafide, good faith offer for purchase of the right.

F. *High use, multi-residential and commercial driveways shall be constructed in accordance with SDRSD G-17 except that the concrete apron shall be 7-1/2" thick. Dimension R shall be 15 feet. *Low use and medium use driveways shall be constructed in accordance with SDRSD G-14B, Throat width shall be no less than 24 feet for residential projects and 30 feet for commercial or industrial projects. Throat width shall be no more than 36 feet for residential projects and 40 feet for commercial or industrial projects. The apron length shall be no less than the throat width. Spacing for high use driveways shall be treated the same as a street intersection.

G. Driveways should be designed for 15 mph safe speed with sufficient sight distances. Maximum center line grades are as follows:

1) *Low use driveways shall have a maximum grade of +15%.
2) *Medium use driveways shall have a maximum grade of +12%.
3) *High use driveways shall have a maximum grade of +12%.

Vertical curves shall be provided when grade break exceeds 5%.
*(See Section 7 for driveway use definitions)

H. All driveways shall be provided, at a minimum, with stopping sight distance in accordance with the City of Carlsbad Street Design Criteria in Chapter 3.

I. Except as required by Section E.(1) above, deceleration lanes will be required or approved only on a case-by-case basis.

J. Driveways not otherwise clearly distinguishable from a public street shall be clearly and permanently marked and posted as private.

K. Excepting only deceleration lane circumstances, the angle of intersection of street and driveway shall not vary more than 10 degrees from a right angle. When the ADT for a driveway exceeds 40, the queuing area shall be within the 10 degree skew and shall be a tangent section.

L. Driveway widths and percentage of frontage shall be in conformance with City Standards for Public Streets.

M. Where private streets meet public streets, Public Street Standards shall apply (access, ramps, and utilities).

N. Reciprocal access for adjacent lots shall be provided where feasible (future development shall be considered).

O. Circulation Design shall vary depending upon land use. For example, if a site changes from commercial to industrial (or vice versa) the parking, access and circulation will also change to accommodate the specific land use.

P. Dead end parking aisles over 150' deep shall have adequate turn-around space to accommodate a maximum 3-point turn for a standard passenger vehicle. No dead end parking aisles shall have a depth over 200’

Q. Industrial and large commercial projects shall provide for semi-tractor trailer circulation and loading. The design vehicle shall be a semi-tractor trailer per California Department of Transportation Highway Design Manual, Figure 407D.

R. Office, small commercial and light industrial, projects shall provide access and circulation for a 42' truck or bus per California Department of Transportation Highway Design Manual, Figure 407E.

S. All projects shall provide access and circulation to trash enclosures. The design vehicle parameters and turning radius for a trash truck shall be the same as the truck or bus design mentioned above, Figure 407E.

T. All loading zones, truck bays and turn-arounds shall be free of parking stalls and obstructions. Loading zones shall not obstruct free movement and circulation of passenger cars.

2. ENTRANCES TO PLANNED DEVELOPMENTS

Entrances to planned developments shall be designed in accordance with the following criteria:

A. For private street entrances that include medians:

1) Median widths shall be a minimum of 4 feet and a maximum of 8 feet.

2) Median nose shall be located 15 feet minimum from the prolongation of the face of curb of the intersecting street.

3) No portions of a private median shall be allowed in the public right-of-way.

4) No rolled curbs allowed in medians unless specifically approved as a traffic calming device..

5) Enhanced paving may be allowed in public right-of-way with the approval of the City Engineer and issuance of an encroachment agreement.

6) Lane widths shall be 12 feet minimum and 16’ maximum.

B. For planned developments which include gated or guarded entrances:

1) Gated and guarded entrances shall meet all the above criteria.

2) A minimum queuing distance of 20 feet shall be provided for each 1,000 ADT or fraction thereof (i.e., 40 feet for 1001 ADT).

3) All medians shall be designed in accordance with CALTRANS turning radii for P-vehicle. No more than a 3-point turn in accordance with the turning requirements of Figure 407E truck or bus.

4) Where the design includes a guard house, there should be enough street width so that entering vehicles can make a U-turn just past the guard house to allow turnaround if the guard has denied them entry. Provide CALTRANS turning radius to accommodate the U-turns.

3. WIDTHS AND ALIGNMENT

A. Private street widths shall be as follows:

	Minimum Width Curb-to-Curb
1) Single-Family or Duplex [(from 21.45.090(h)]	
Two (2) lanes, parking on both sides	34 feet
2) Multi-Family Attached	
Private Driveways (No Parking)	20 feet

B. Commercial/industrial parking lots and driveways:

1) Minimum aisle widths shall be in accordance with Section 21.44 of the Carlsbad Municipal Code.

2) Aisle width adjacent to buildings where truck loading bays are not provided shall be a minimum of 32' wide.

3) One-way aisles shall require specific approval of the City Engineer.

C. All circulation routes as described above must be designed in accordance with City Standards and to the following design criteria:

1) Private street and private driveway traveled way widths shall conform with alignment criteria for public streets and/or Carlsbad Ordinance Section 21.45.090(h)(1).

2) Standard curve radius as defined in Table A of the Street Design Criteria may be reduced provided adequate intersection sight distance is maintained in accordance with CalTrans Highway Design Manual, Topic 405.1. The sight distance corridor must be exclusive of parking, heavy landscape over 30" in height or fenced areas.

3) Right angle curves are permitted within the following guidelines:

a) Provision is made to retain stopping sight distance per Caltrans Highway Design Manual.

b) The maximum skew for the right angle curve does not depart more than 10 degrees from the 90 degree angle.

c) The 90 degree angle curves are not located at or near the entrance to projects with high or medium use driveways/streets. Ninety degree curves are discouraged on high use driveways/streets.

d) The standard knuckle design may be eliminated on apartment and condominium projects and planned developments with the City Engineer's approval.

4) A series of right angle turns or reversing curves are discouraged and will be allowed only with specific approval of the City Engineer. Standard tangent distances per Street Design Criteria Section 3(D) shall be required on all reversing curves.

4. SIDEWALKS

A. All private streets and driveways shall provide for pedestrian and handicapped access to all units or buildings proposed.

B. Sidewalks are required on both sides of all private streets and drives to provide access to all units, parking and recreation areas in a planned development or condominium project. Sidewalk circulation throughout the site is required although not necessarily adjacent to the curb.

Sidewalks may be eliminated under the following circumstances:

1) Private driveways/streets that are not through streets and have an entire street length less than 150 feet and access a maximum of 12 units.

2) Private driveways/streets that are not through streets which access eight (8) units or less and do not exceed 300 feet of entire street length.

3) Private drive aisles providing direct access to garages, carports and parking stalls in multi-family projects exceeding a density of ten (10) dwelling units per acre.

4) Single loaded streets may eliminate sidewalks on the side opposite the units when it is not needed to provide for a logical pedestrian circulation.

C. The City Engineer reserves the right of final determination of sidewalk locations and roadway design issues consistent with City Standards.

D. Typically, the private sidewalks, streets or driveways are dedicated as "public utility and access easements." Water, sewer, gas and electric, cable television, telephone and storm drain facilities may be included within this general easement. Utility districts may require special easement requirements.

5. DRAINAGE

A. Concrete swales between parking lot aisles are discouraged. Tipped sections with concrete curb and gutters are preferred.

B. Hydrology and hydraulic design shall be in accordance with Public Drainage Standards. Pipe sizing, material specifications and pre-fabricated structures shall be designed by a Registered Civil Engineer and are subject to approval of the City Engineer.

C. Concentrated site drainage may not surface flow across sidewalks onto public or private streets.

D. Special design shall be required for all parking lots which, by design, may retain storm waters to reduce down stream flooding.

E. Public storm drains may be included within the "general utility and access easement" if specifically approved by the City Engineer.

F. Maximum fall across parking areas shall be five percent (5%).

6. STRUCTURAL SECTION

A. Private streets shall be constructed with the same structural sections as public streets.

B. Parking lots and driveways shall be designed based upon a traffic index of 4.5 and the "R" value of the soil(s) at the project site as determined by a Registered Soils Engineer. Minimum section shall be 4" asphalt concrete. Modifications of this Standard may be made if approved by the City Engineer.

C. Truck routes through parking lots or aisles with an ADT greater than 500 shall be designed with a traffic index of 5.0. All routes leading to trash enclosures shall be designed for heavy loading, minimum 4" A.C. over 6" approved aggregate base. The level loading area in front of trash enclosures shall be concrete with a minimum thickness of 7-1/2 inches in conformance with GS-16.

7. DEFINITIONS

A. Driveway: Includes those portions of public and private property used to provide access from public right-of-way to private property and the areas on public and private property used to queue or stack arriving and departing vehicles. Driveways are the points of interface between the public/private circulation systems.

B. Traveled Way: Includes all public streets and all private streets or drives serving more than 50 units or an average daily trip load of 500 or more.

C. Residential Driveway: Includes all low use driveways for single family, duplex, twin homes, or low use driveways which do not have truck access to a trash dumpsite.

D. Low Use Driveway: Includes all driveways with an average daily trip (ADT) load less than or equal to 200, except residential driveways.

E. Medium Use Driveway: Includes all driveways with an ADT load greater than 200 and less than 500.

F. High Use Driveway: Includes all driveways with an ADT greater than or equal to 500.

NOTE: All other Standards for the City of Carlsbad shall apply to private streets. Variations from these Standards may be allowed with the approval of the City Engineer.